(FILE 'HOME' ENTERED AT 11:03:34 ON 01 JUL 2002)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE, SCISEARCH' ENTERED AT 11:03:50 ON 01 JUL 2002

L1	224444	S METHYLAT? OR UNMETHYLAT? OR HYPERMETHYLAT? OR HYPOMETHYLAT?
L2	881587	S FRET OR STEM? OR HAIRPIN? OR LOOP?
L3	3869	S L1 AND L2
L4	2168450	S CANCER? OR PROSTAT?
L5	93146	S MYF-3 OR MYF3 OR MYF 3 OR CALCITONIN OR PAX
L6	278	S L3 AND (L4 OR L5)
L7	151	DUP REM L6 (127 DUPLICATES REMOVED)
L8	2	S L7 AND FRET
L9	11	S L1 AND FRET
L10	7	DUP REM L9 (4 DUPLICATES REMOVED)
L11	5	S L10 NOT L8
L12	451	S L1 (P) QUENCH?
L13	234	DUP REM L12 (217 DUPLICATES REMOVED)
L14	3	S L13 AND L4
L15	3	DUP REM L14 (0 DUPLICATES REMOVED)
L16	1040	S KAY P?/AU
L17	88	S L16 AND L1
L18	25	DUP REM L17 (63 DUPLICATES REMOVED)

L Number	Hits	Search Text	DB	Time stamp
1	26551	methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$	USPAT	2002/07/01 10:47
2	523399	stem$ or loop$ or FRET or quench$ or hairpin$	USPAT	2002/07/01 10:53
3	6668	(methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) and (stem$ or loop$ or FRET or quench$ or hairpin$)	USPAT	2002/07/01 10:49
4	344	(methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) same (stem$ or loop$ or FRET or quench$ or hairpin$)	USPAT	2002/07/01 10:51
5	3424	myf3 or myf-3 or PAx or calcitonin	USPAT	2002/07/01 10:51
6	23	(myf3 or myf-3 or PAx or calcitonin) and ((methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) same (stem$ or loop$ or FRET or quench$ or hairpin$))	USPAT	2002/07/01 10:51
7	69146	FRET or quench$	USPAT	2002/07/01 10:53
9	3230	(methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) and (FRET or quench$)	USPAT	2002/07/01 10:54
10	31	((methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) and (FRET or quench$)) and (myf3 or myf-3 or PAx or calcitonin)	USPAT	2002/07/01 10:54
12	0	((methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) same (FRET or quench$)) same (myf3 or myf-3 or PAx or calcitonin)	USPAT	2002/07/01 10:54
13	0	((methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) same (FRET or quench$)) same (cancer$ or prostat$)	USPAT	2002/07/01 10:55
14	4	((methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) same (FRET or quench$)) and (myf3 or myf-3 or PAx or calcitonin)	USPAT	2002/07/01 10:55
11	194	(methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) same (FRET or quench$)	USPAT	2002/07/01 10:56
15	4	(methylat$ or hypermethylat$ or hypomethylat$ or unmethylat$) same FRET	USPAT	2002/07/01 10:57

L Number	Hits	Search Text	DB	Time stamp
1	4	"6117635"	USPAT	2002/07/01 11:18
2	26520	methylat$ or hypermethylat$ or hypomehtylat$ or unmethylat$	USPAT	2002/07/01 11:19
3	89436	fluorescen$ or fluorophor$	USPAT	2002/07/01 11:20
4	0	(methylat$ or hypermethylat$ or hypomehtylat$ or unmethylat$) same "6117635"	USPAT	2002/07/01 11:20
5	160	(methylat$ or hypermethylat$ or hypomehtylat$ or unmethylat$) same (fluorescen$ or fluorophor$)	USPAT	2002/07/01 11:20
6	28	((methylat$ or hypermethylat$ or hypomehtylat$ or unmethylat$) same (fluorescen$ or fluorophor$)) same (temperature$)	USPAT	2002/07/01 11:23
7	2	"9928501"	DERWENT	2002/07/01 11:24
8	2	"200046398"	DERWENT	2002/07/01 11:24

(FILE 'HOME' ENTERED AT 14:08:37 ON 01 JUL 2002)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE, SCISEARCH' ENTERED AT 14:09:52 ON 01 JUL 2002

L1	223375	S	METHYLAT? OR UNMETHYLAT? OR HYPERMETHYLAT?
L2	5086568	S	TEMPERATURE? OR DISSOCIAT? OR MELTING
L3	1667248	S	PROBE? OR OLIGO? OR PRIMER?
L4	671501	S	QUENCH? OR FLUORESCENT? OR FRET OR FLUOROPHOR?
L5	43	S	L1 AND L2 AND L3 AND L4
L6	1242140	S	QUENCH? OR FLUORESCEN? OR FRET OR FLUOROPHOR?
L7	73	S	L1 AND L2 AND L3 AND L6
L8	47		DUP REM L7 (26 DUPLICATES REMOVED)
L9	393	S	L1 AND HAIRPIN?
L10	13	S	L9 AND L4
L11	7		DUP REM L10 (6 DUPLICATES REMOVED)

=>

L Number	Hits	Search Text	DB	Time stamp
1	26520	methylat$ or hypermethylat$ or unmethylat$	USPAT	2002/07/01 12:23
2	1108482	temperatur$ or dissociat$	USPAT	2002/07/01 12:24
3	6436	(methylat$ or hypermethylat$ or unmethylat$) same (temperatur$ or dissociat$)	USPAT	2002/07/01 12:25
4	267	((methylat$ or hypermethylat$ or unmethylat$) same (temperatur$ or dissociat$)) same (hybridi$ or contact$)	USPAT	2002/07/01 12:26
6	27	(((methylat$ or hypermethylat$ or unmethylat$) same (temperatur$ or dissociat$)) same (hybridi$ or contact$)) same (probe$2 or primer$2 or oligo$10 or loop$2 or stem$)	USPAT	2002/07/01 12:27

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=> s methylat or unmethylat or hypermethylat
=> s methylat? or unmethylat? or hypermethylat?
L1      223375 METHYLAT? OR UNMETHYLAT? OR HYPERMETHYLAT?

=> s temperatur? or dissociat? or melting
L2     5086738 TEMPERATUR? OR DISSOCIAT? OR MELTING

=> s l1 and l2
L3       15230 L1 AND L2

=> s probe or oligo? or primer?
OR IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s probe? or oligo? or primer?
L4     1667248 PROBE? OR OLIGO? OR PRIMER?

=> s l4 and l3
L5        1020 L4 AND L3

=> s quench? or fluorescen? or FRET or fluorophor?
L6     1242140 QUENCH? OR FLUORESCEN? OR FRET OR FLUOROPHOR?

=> s l6 and l5
L7          73 L6 AND L5

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8           47 DUP REM L7 (26 DUPLICATES REMOVED)
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WO 2002/03199

L8 ANSWER 18 OF 47 MEDLINE

ACCESSION NUMBER: 1998057338 MEDLINE

DOCUMENT NUMBER: 98057338 PubMed ID: 9396631

TITLE: **Fluorescence** and NMR studies of intramolecular stacking of mRNA cap-analogues.

AUTHOR: Wieczorek Z; Zdanowski K; Chlebicka L; Stepinski J; Jankowska M; Kierdaszuk B; Temeriusz A; Darzynkiewicz E; Stolarski R

CORPORATE SOURCE: Department of Physics and Biophysics, University of Agriculture and Technology, Olsztyn, Poland.

SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA, (1997 Nov 1) 1354 (2) 145-52.
Journal code: 0217513. ISSN: 0006-3002.

PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199801

ENTRY DATE: Entered STN: 19980122
Last Updated on STN: 19980122
Entered Medline: 19980105

AB Intramolecular stacking of a series of new synthesized dinucleotide mRNA cap analogues has been investigated in aqueous buffers by means of **fluorescence** and 1H-NMR at various pH and **temperatures**, and compared with that for 7-methylguanosine(5')ppp(5')guanosine (m7GpppG), as well as its **hypermethylated** derivative m(3)2,2,7GpppG. Thermodynamic parameters for intramolecular self-association stabilized by stacking were established by **temperature**-dependent **fluorescence quenching**, taking into account collisional deactivation of the excited states. Relative orientations of the stacked bases in the cap analogues were determined with the aid of a program GEOSHIFT (Stolarski et al., Biochim. Biophys. Acta (1996) 1293, 97), based on ring-current anisotropy. 1D-soft-TOCSY experiments were applied to extract the exact values of vicinal coupling constants, and hence to resolve solution conformation of the cap molecules. Stacking interaction has been discussed in detail in terms of the cap structural features, e.g., types of bases and length of the 5',5'-phosphate bridges, and regarding the interactions stabilizing intramolecular stacking.

L8 ANSWER 27 OF 47 MEDLINE DUPLICATE 6

ACCESSION NUMBER: 94047071 MEDLINE
DOCUMENT NUMBER: 94047071 PubMed ID: 8230207
TITLE: DNA recognition by the EcoK methyltransferase. The influence of DNA **methylation** and the cofactor S-adenosyl-L-methionine.
AUTHOR: Powell L M; Dryden D T; Willcock D F; Pain R H; Murray N E
CORPORATE SOURCE: Institute of Cell and Molecular Biology, University of Edinburgh, U.K.
SOURCE: JOURNAL OF MOLECULAR BIOLOGY, (1993 Nov 5) 234 (1) 60-71.
Journal code: 2985088R. ISSN: 0022-2836.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199312
ENTRY DATE: Entered STN: 19940117
Last Updated on STN: 19990129
Entered Medline: 19931209

AB The methyltransferase of the EcoK type I restriction/modification system is trimeric, M2S1, where the S subunit determines the sequence specificity of the enzyme. The methyltransferase has a strong preference for hemimethylated substrate DNA and, therefore, we have investigated the effect of the **methylation** state of DNA on binding by the enzyme, together with the effects on binding of the cofactor S-adenosyl-L-methionine. Our results indicate that the methyltransferase has two non-interacting S-adenosyl-L-methionine binding sites, each with a **dissociation** constant of 3.60 (+/- 0.42) microM determined by equilibrium dialysis, or 2.21 (+/- 0.29) microM determined by the displacement of a **fluorescent probe**. Ultraviolet light-induced crosslinking showed that S-adenosyl-L-methionine binds strongly only to the modification (M) subunits. Changes in the sedimentation velocity of the methyltransferase imply a protein conformational change due to S-adenosyl-L-methionine binding. Gel retardation results show that the binding of S-adenosyl-L-methionine to the methyltransferase enhances binding to both specific and non-specific DNAs, but the enhancement is greater for the specific DNA. Differences in binding affinities contribute to the recognition of the specific nucleotide sequence AAC(N)6GTGC by the methyltransferase in preference to a non-specific sequence. In contrast, although the complexes of unmodified and hemimethylated DNAs with the methyltransferase have different mobilities in non-denaturing gels, there appears to be no contribution of binding affinity to the distinction between these two substrates. Therefore, the preference for a hemimethylated substrate must be due to a difference in catalysis.